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(54) HIGH-TENSILE NON-ORIENTED ELECTRICAL STEEL SHEET FOR ROTATING MACHINE AND ITS PRODUCTION

(57)Abstract:

PURPOSE: To produce an non-oriented electrical steel sheet having high tensile strength, low iron loss and high magnetic flux density by hot rolling a low-C steel slab which is specified in the content of Mn+Ni and pickling and cold rolling the slab, then subjecting the rolled sheet to low-temp. recrystallization at a specific temp.

CONSTITUTION: The steel consisting of 2.0W3.5wt% Si, ≤0.008%C, 0.03W0.2% P, 0.3≤Mn+Ni≤10%≥ 1 kinds of Mn and Ni and the balance Fe and inevitable impurities is continuously cast or bloomed. Such steel slab is hot rolled and is then pickled and cold rolled without annealing or after annealing. The steel slab is then subjected to low-temp. recrystallization at 650W850° C temp. The high-tensile grain oriented electrical steel sheet for rotating machines having the excellent mechanical and magnetic characteristics including 65kg/mm2 tensile strength TS, 50W/kg high-frequency iron loss W5/1000, and 1.65T magnetic flux density B5 is obtd. by the above-mentioned method.